Applicants: Dean P. Macri, et al.

Serial No.: 09/539.343

Attorney's Docket No.: 10559-154001

Intel Docket No.: P7988

Serial No.: 09/539,343 Filed: March 31, 2000

Page : 2 of 13

AMENDMENTS TO THE CLAIMS:

This listing of claims replaces all prior versions and listings of claims in the

application:

LISTING OF CLAIMS:

1. (Currently Amended) A method of trimming a parametric surface, comprising:

prior to rendering the parametric surface:

producing a trimming texture, the trimming texture comprising a texture map

image representation of a trimming curve for the parametric surface, the trimming

curve defining trimmed and untrimmed portions, the untrimmed portion comprising

opaque pixels and the trimmed portion comprising transparent pixels; and

during rendering of the parametric surface:

obtaining a list of polygons that define the parametric surface; and

drawing the polygons to generate the parametric surface, wherein drawing

comprises applying the trimming texture to the polygons parametric surface, the

trimming texture being applied by texture mapping the trimming texture onto the

polygons parametric surface to produce the trimmed and untrimmed portions; and

rendering only the untrimmed portion.

2 to 7. (Cancelled)

Applicants: Dean P. Macri, et al.

Serial No.: 09/539.343

Attorney's Docket No.: 10559-154001

Intel Docket No.: P7988

Serial No.: 09/539,343 Filed: March 31, 2000

Page : 3 of 13

8. (Currently Amended) The method of claim 1, further comprising obtaining wherein the trimming texture is produced from a plurality of trimming curves for the parametric surface.

9. (Cancelled)

10. (Currently Amended) The method of claim 19, <u>further</u> comprising: obtaining a material texture for the parametric surface; and applying the material texture to <u>the untrimmed portion</u> a region of the parametric surface

corresponding to the rendered section of the trimming texture.

11. (Previously Presented) An article comprising a computer machine-readable medium that stores instructions for use in trimming a parametric surface, the instructions for causing the computer a processing device to:

prior to rendering the parametric surface:

produce a trimming texture, the trimming texture comprising a texture map image representation of a trimming curve for the parametric surface, the trimming curve defining trimmed and untrimmed portions, the untrimmed portion comprising opaque pixels and the trimmed portion comprising transparent pixels; and during rendering of the parametric surface:

obtain a list of polygons that define the parametric surface; and

Attorney's Docket No.: 10559-154001 Applicants: Dean P. Macri, et al. Intel Docket No.: P7988

Serial No.: 09/539,343 : March 31, 2000 Filed

Page : 4 of 13

> draw the polygons to generate the parametric surface, wherein drawing comprises applying apply the trimming texture to the polygons parametric surface, the trimming texture being applied by texture mapping the trimming texture onto the parametric surface polygons to produce the trimmed and untrimmed portions; and render only the untrimmed portion.

12 to 16. (Cancelled)

17. (Currently Amended) The article of claim 11, further comprising instructions for eausing the computer to obtain wherein the trimming texture is produced from a plurality of trimming curves for the parametric surface.

18. (Cancelled)

19. (Original) The article of claim 11 18, further comprising instructions for causing the computer processing device to:

obtain a material texture for the parametric surface; and

apply the material texture to the untrimmed portion a region of the parametric surface corresponding to the rendered section of the trimming texture.

Applicants: Dean P. Macri, et al.

Serial No.: 09/539.343

Attorney's Docket No.: 10559-154001

Intel Docket No.: P7988

Serial No.: 09/539,343 Filed: March 31, 2000

Page : 5 of 13

20. (Currently Amended) An apparatus for use in trimming a parametric surface,

comprising:

[[a]] memory which stores computer executable instructions; and

a processor that executes the computer instructions to:

prior to rendering the parametric surface:

produce a trimming texture, the trimming texture comprising a texture map image representation of a trimming curve for the parametric surface, the trimming curve defining trimmed and untrimmed portions, the untrimmed portion comprising opaque pixels and the trimmed portion

comprising transparent pixels; and

during rendering of the parametric surface:

obtain a list of polygons that define the parametric surface; and
draw the polygons to generate the parametric surface, wherein
drawing comprises applying apply the trimming texture based on a
trimming curve to the polygons parametric surface, the trimming texture
being applied by texture mapping the trimming texture onto the polygons
parametric surface to produce the trimmed and untrimmed portions; and

render only the untrimmed portion.

21 to 25. (Cancelled)

Applicants: Dean P. Macri, et al. Attorney's Docket No.: 10559-154001 Intel Docket No.: P7988

Serial No.: 09/539,343

: March 31, 2000 Filed

Page : 6 of 13

26. (Currently Amended) The apparatus of claim 20, further comprising instructions for causing the computer to obtain wherein the trimming texture is produced from a plurality of trimming curves for the parametric surface.

27 to 30. (Cancelled)

- 31. (New) The apparatus of claim 20, wherein the processor executes instructions to: obtain a material texture for the parametric surface; and apply the material texture to the untrimmed portion.
- 32. (New) The method of claim 1, wherein the trimming curve is produced from one or more vector-valued functions.
- 33. (New) The method of claim 1, wherein the parametric surface is part of a threedimensional model.
- 34. (New) The method of claim 1, wherein the method is performed by an alpha channel of texture blending/mapping hardware in a three-dimensional (3D) graphics processor.

Applicants: Dean P. Macri, et al. Attorney's Docket No.: 10559-154001 Intel Docket No.: P7988

Serial No.: 09/539,343 Filed : March 31, 2000

Page : 7 of 13

35. (New) The method of claim 1, wherein the parametric surface comprises control

points that dictate a shape of the parametric surface, the trimming texture being applied to the

shape of the parametric surface dictated by the control points.

36. (New) The method of claim 1, wherein the polygons have texture coordinates that

are used in defining a texture of the polygons.

37. (New) The article of claim 11, wherein the trimming curve is produced from one or

more vector-valued functions.

38. (New) The article of claim 11, wherein the parametric surface is part of a three-

dimensional model.

39. (New) The article of claim 11, wherein the instructions are executable by an alpha

channel of texture blending/mapping hardware in a three-dimensional (3D) graphics processor.

40. (New) The article of claim 11, wherein the parametric surface comprises control

points that dictate a shape of the parametric surface, the trimming texture being applied to the

shape of the parametric surface dictated by the control points.

Attorney's Docket No.: 10559-154001 Applicants: Dean P. Macri, et al. Intel Docket No.: P7988

Serial No.: 09/539,343

Filed : March 31, 2000

Page : 8 of 13

41. (New) The article of claim 20, wherein the polygons have texture coordinates that are used in defining a texture of the polygons.

- 42. (New) The apparatus of claim 20, wherein the trimming curve is produced from one or more vector-valued functions.
- 43. (New) The apparatus of claim 20, wherein the parametric surface is part of a threedimensional model.
- 44. (New) The apparatus of claim 20, wherein the processor comprises a threedimensional (3D) graphics processor having texture blending/mapping hardware and an alpha channel.
- 45. (New) The apparatus of claim 20, wherein the parametric surface comprises control points that dictate a shape of the parametric surface, the trimming texture being applied to the shape of the parametric surface dictated by the control points.
- 46. (New) The apparatus of claim 20, wherein the polygons have texture coordinates that are used in defining a texture of the polygons.